IN THE CLAIMS:

Please cancel claims 2-41 without prejudice or disclaimer.

Please amend claim 1 as follows:

1. (Currently Amended) A apparatus for providing an indicator of or from which stiffness can be estimated for ~~elongate timber, logs or felled tree stems (hereafter "logs")~~ of ~~known length L or measurable~~ length L, said apparatus comprising ~~or including~~

a sensing ~~means capable of being~~ device placed in contact with or in close proximity to a log end to detect ~~the impulse and echoes thereof resulting from~~ at least part of a frequency spectrum of resonant plane acoustic waves f_1, f_2,...f_n resulting from an induced disturbance that travels the length L and reflects at ends thereof, said induced disturbance being causable by a striking of one of the other ~~or that same~~ log end and the log end,

a processing ~~means~~ device to derive ~~using an echo or echoes sensed~~ the indicator from spectral information detected by said sensing ~~means a said indicator~~ device, and

a display ~~means~~ device to display said indicator ~~or any derivative thereof~~ received from said processing ~~means~~ device,

~~wherein said processing means tests algorithmically frequency transformed data derived from time based echo data with~~

~~a view to deriving a measure or good estimate of fundamental frequency f_0,~~

and wherein L is ~~or can be~~ entered into said processing ~~means~~ device,

and wherein said processing ~~means~~ device derives, as said indicator ~~by reference to both f_0 and L,~~ V^2 where V is the acoustic speed in a relationship MOE=density x V^2 by reference to both L and f_0, where f_0 is a fundamental frequency of the acoustic spectrum f_1, f_2,....f_n and where MOE is a dynamic modulus of elasticity,

and wherein f_0 is derived by the processing device using a best fit spectral analysis of the resonant plane frequencies of the at least part detected acoustic spectrum f_1, f_2,.... f_n.

Claims 2-41 (Cancelled)

Please add new clams 42-56 as follows:

42. (New) The apparatus as claimed in claim 1, wherein at least one of said sensing device and said processing device includes an amplification device to ensure a gain to ensuing echos.

43. (New) The apparatus as claimed in claim 1, wherein said sensing device is placed in contact with said log end.

44. (New) The apparatus as claimed in claim 1, wherein said sensing device carries a switch for said processing device conducive, when activated, of good log/sensing device contact.

45. (New) The apparatus as claimed in claim 1, wherein said sensing device is compliantly mounted by a sensing head to be physically pressed by a user against a log surface to be tested.

46. (New) The apparatus as claimed in claim 45, wherein the compliant mounting of said sensing device within the sensing head, is compliantly mounted by silicone rubber.

47. (New) The apparatus as claimed in claim 45, wherein said sensing device is in the sensing head connected by a flexible connection to an apparatus carrying said processing device and said display device.

48. (New) The apparatus as claimed in claim 1, wherein said sensing device includes a piezo-style accelerometer.

49. (New) The apparatus as claimed in claim 1, wherein said processing device has an analog signal acquisition device, a device for digitization and processing into a characteristic

spectrum of an acquired analog signal data of echoes and further software algorithms to interpret the data.

50. (New) The apparatus as claimed in claim 1, wherein, with a view to power saving, said display device is a small, low power display.

51. (New) The apparatus as claimed in claim 1, wherein said sensing device is in a sensing head capable of one handed manipulation by a user and whereby power consumption is minimized by allowing initiation of a measurement sequence by finger pressure on a push switch immediately prior to striking of a log to be tested, the finger pressure on the push switch encouraging positive contact between the sensing head and a log surface.

52. (New) The apparatus as claimed in claim 1, wherein said processing device is adapted to threshold a signal from said sensing device and immediately to apply an exponentially increasing amplification of the signal to compensate for absorption of the signal in the log so increasing the time over which acoustic signals are digitalized and to increase spectral resolution.

53. (New) The apparatus as claimed in claim 1, wherein power consumption is adapted to be minimised by allowing operation

under control of PLDs which remain in low current mode until enabled by an initiation switch after which there is a powering up of analogue functions of said processing device with respect to signal acquisition, powering up and analysis of the signals and a sending of results to the display device before being subsequently powered down after a time period.

54. (New) The apparatus as claimed in claim 1, wherein data entries are made into said processing device by a keyboard.

55. (New) The apparatus as claimed in claim 54, wherein preset information for data entry is selected from a class of at least one

(i) velocity class codes,

(ii) log length codes,

(iii) information analysis purposes,

(iv) information for instrument configuration purposes, and

(v) to control sending the spectral information via a serial port to an external computer for graphical display or archiving.

56. (New) The apparatus as claimed in claim 1, wherein said sensing device is adapted to be placed at or in close

proximity to a same log end as a log end to be struck to provide said induced disturbance.